3-month summary

- The chance of a cold period is slightly higher than normal.
- Impacts from cold weather, such as ice, fog and snow, are increased.
- There is a reduction in the likelihood of the period being wet overall.
- However, further rainfall impacts are likely, especially at first, given the wet start to winter.
- The chances of a calm period are slightly greater than usual.

3-month likelihood of impact

Temperature

Precipitation

Wind speed

1-month summary

- The chance of a cold month is similar to normal.
- Nevertheless, a normal chance of cold is greater than seen in January in recent years and in this winter so far.
- Impacts from cold weather, such as ice, fog and snow, are a little more likely than in the past few years.
- The chances of a wet month are slightly less than usual.
- The chances of a calm month are close to normal.

1-month likelihood of impact

Temperature

Precipitation

Wind speed

Understanding the Outlook

The Outlook uses 3 categories for possible UK temperature, precipitation and wind speed in the next 1 and 3 months:

COLD, NEAR AVERAGE and MILD for temperature
WET, NEAR AVERAGE and DRY for precipitation
CALM, NEAR AVERAGE and WINDY for wind speed

These are linked to observed UK conditions in past years. The NEAR AVERAGE category represents typical conditions for the period and has a normal likelihood of 60%. The higher and lower categories represent more unusual conditions that are more likely to produce impacts. Each has a normal likelihood of 20%.

The Outlook shows how the chances of occurrence of the categories differ from normal, based on knowledge of expected global meteorological patterns. It does not identify which category will actually occur.

Same 3-month period over the last 10 years

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
MILD NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE COLD NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE MILD NEAR AVERAGE
WET NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE WET NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE
WINDY NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE WINDY NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE

Same 1-month period over the last 10 years

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023
NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE MILD COLD NEAR AVERAGE NEAR AVERAGE
WET NEAR AVERAGE WET DRY NEAR AVERAGE DRY NEAR AVERAGE NEAR AVERAGE DRY NEAR AVERAGE
NEAR AVERAGE WINDY NEAR AVERAGE NEAR AVERAGE NEAR AVERAGE CALM NEAR AVERAGE CALM NEAR AVERAGE NEAR AVERAGE

Outlook in context

Drivers of UK weather for January to March

Global weather patterns can affect UK weather during the coming season and their influence acts to shift the chances of the categories in the Outlook.

Drivers relevant to the current Outlook include:

- The warming of UK climate consistent with wider global warming trends.
- A strong El Niño, which increases the likelihood that the second half of winter and early spring will be colder & drier than the first half.
- A weakening Stratospheric Polar Vortex, which increases the chances of a Sudden Stratospheric Warming (SSW) and a reduction of mild westerly winds rom the Atlantic.
- An easterly phase of the Quasi-Biennial Oscillation reduces the strength of westerly winds.
- The pattern of sea surface temps. in the N. Atlantic, which also reduces the chance of westerlies.

Long-range weather predictions

The Met Office and other prediction centres around the world routinely produce long-range forecasts of conditions in the months ahead. There are indications that the UK is more likely to be influenced by patterns with higher pressure to the southwest initially, with winds from the northwest. Most signals then give an increased chance for the high pressure patterns to become centred more to the north of the UK, with lower pressure patterns over the near continent extending towards the UK which would favour north or easterly winds. There is also an increased chance of a Sudden Stratospheric Warming (SSW) event taking place from January onwards. This disruption to high-level winds can lead to knock-on effects at the surface which can affect the UK.

Impacts

These factors suggest an increased chance of “blocked” patterns, or a decrease in the westerly winds as we head though this period. This would increase the chance of northerly or easterly winds (though by no means guarantees it) and associated impacts from cold weather.
Nevertheless, despite the heightened risk of cold, a more normal winter (and early Spring) still remains the most-likely outcome.

Outlook compared to normal likelihood

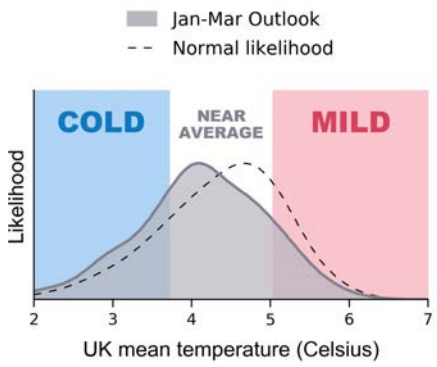
The curves below show the likelihood of the 1- and 3-month average temperature, precipitation and wind speed taking specific values. In each case:

- The dashed curve shows the normal likelihood based on how often each value has been recorded in past years
- The solid curve shows the current likelihood based on the Outlook for this year

The differences in these curves show how the probabilities for the coming periods differ compared to past years. Where the solid curve (corresponding to this year's Outlook) lies above the dashed curve (normal likelihood), the temperature, precipitation or wind speed at that point has a greater-than-normal likelihood of occurring. Likewise, wherever it is below the dashed curve, the likelihood of those values is less than normal.

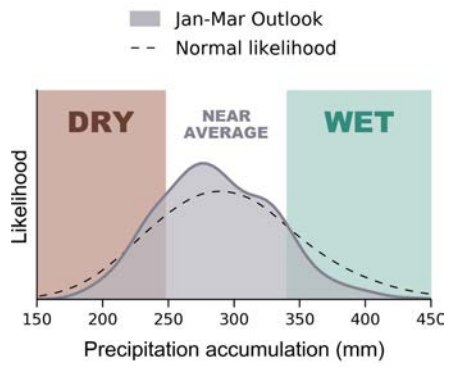
A shift of the solid curve to the left of the dashed curve indicates an increase in the chances of below-average temperature, rainfall or winds. A shift to the right, meanwhile, indicates increased chances of above-average values.

3-month temperature Outlook compared to normal



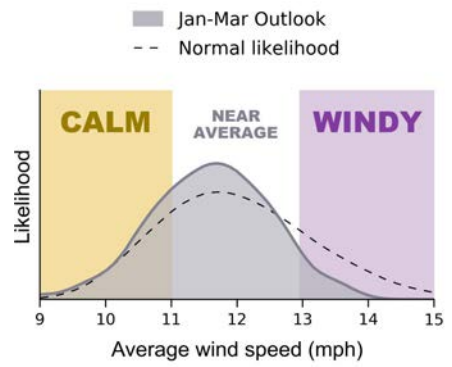
Slight lean towards the left

3-month precipitation Outlook compared to normal



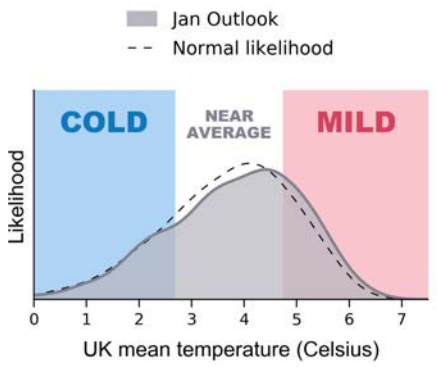
Slight lean towards the left

3-month wind speed Outlook compared to normal



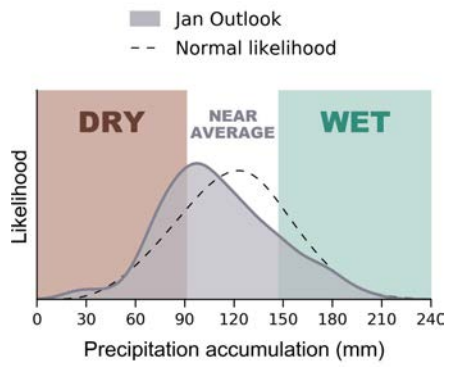
Slight lean towards the left

1-month temperature Outlook compared to normal



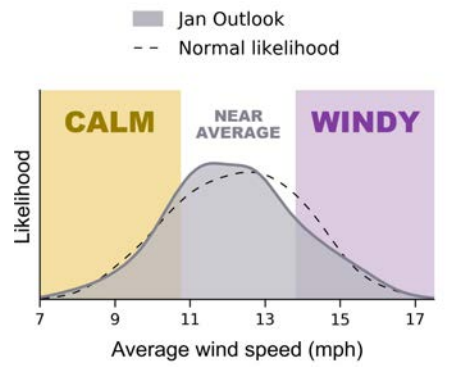
Near average

1-month precipitation Outlook compared to normal



Near average

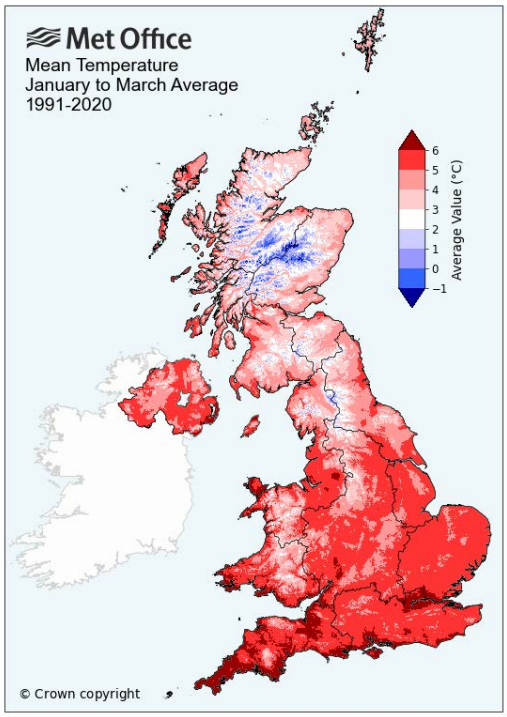
1-month wind speed Outlook compared to normal



Near average

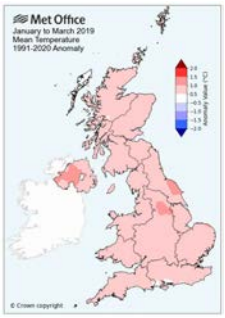
Long-term average temperatures (3-month)

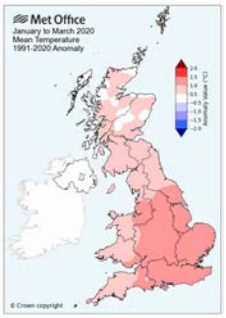
This page shows the long-term average temperatures across the UK applicable to the 3-month Outlook period.

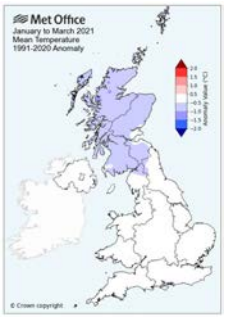


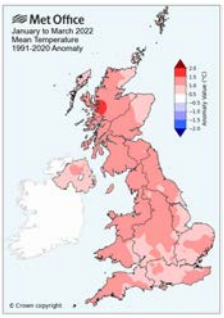
Average temperatures for January - March based on observations of past years.

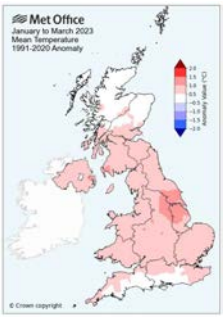
Last 5 years temperatures, difference from average (3-month)


Jan - Mar 2019


Jan - Mar 2020


Jan - Mar 2021


Jan - Mar 2022


Jan - Mar 2023

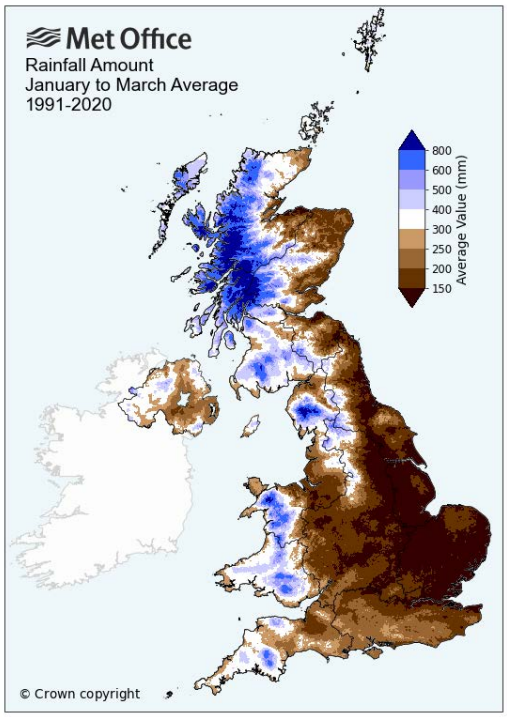
Anomaly (°C)

< -2.0	-2.0 to -1.5	-1.5 to -1.0	-1.0 to-0.5	-0.5 to 0.5	0.5 to 1.0	1.0 to 1.5	1.5 to 2.0	> 2.0

These maps show how January - March temperatures in the last five years differed from the long-term average temperatures shown above in the upper panel. Pink and red colours indicate milder-than-average conditions while blue shades indicate colder-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

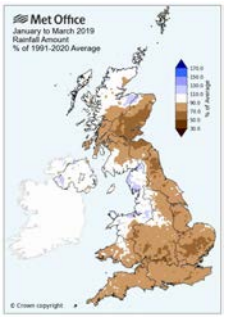
Long-term average precipitation (3-month)

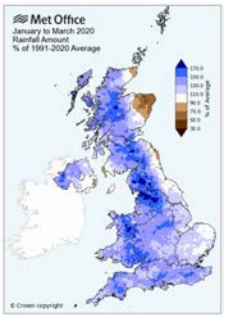
This page shows the long-term average precipitation across the UK applicable to the 3-month Outlook period.

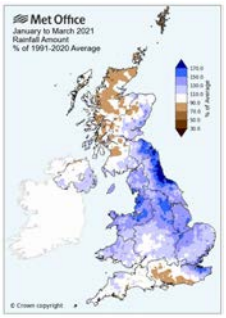


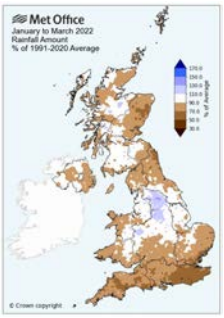
Average precipitation for January - March based on observations of past years.

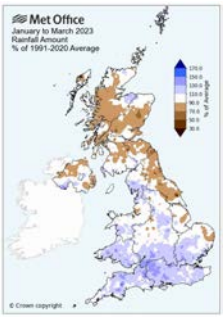
Last 5 years precipitation, difference from average (3-month)


Jan - Mar 2019


Jan - Mar 2020


Jan - Mar 2021


Jan - Mar 2022


Jan - Mar 2023

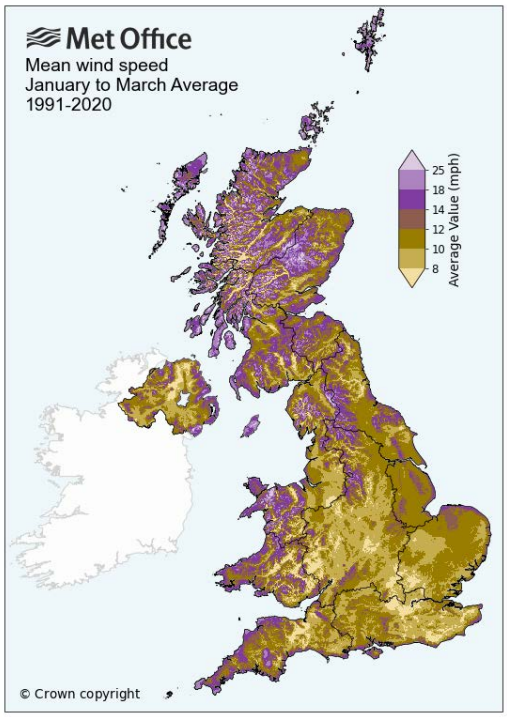
% of average

< 30	30 to 50	50 to 70	70 to 90	90 to 110	110 to 130	130 to 150	150 to 170	> 170

These maps show how January - March precipitation in the last five years differed from the long-term average precipitation shown above in the upper panel. Brown colours indicate drier-than-average conditions while blue shades indicate wetter-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

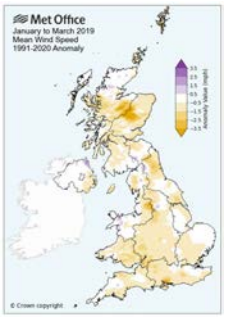
Long-term average wind speed (3-month)

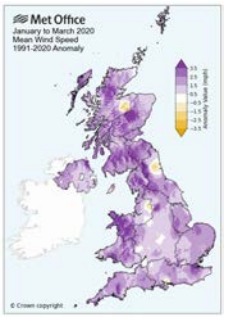
This page shows the long-term average wind speed across the UK applicable to the 3-month Outlook period.

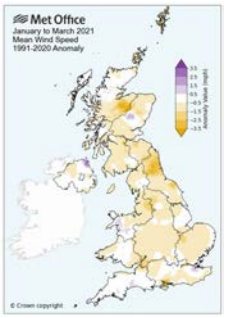


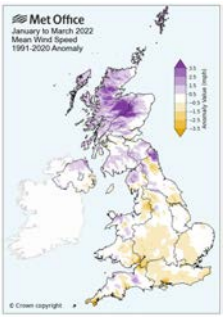
Average wind speed for January - March based on observations of past years.

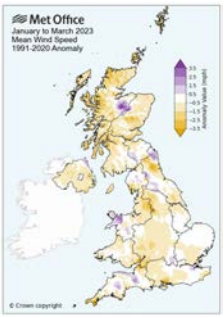
Last 5 years wind speed, difference from average (3-month)


Jan - Mar 2019


Jan - Mar 2020


Jan - Mar 2021


Jan - Mar 2022


Jan - Mar 2023

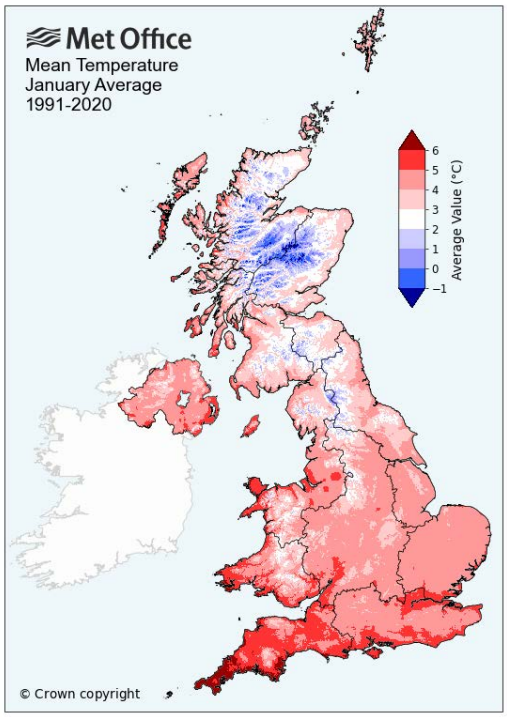
Anomaly (mph)

< -3.5	-3.5 to -2.5	-2.5 to -1.5	-1.5 to -0.5	-0.5 to 0.5	0.5 to 1.5	1.5 to 2.5	2.5 to 3.5	> 3.5

These maps show how January - March wind speed in the last five years differed from the long-term average wind speeds shown above in the upper panel. Yellow colours indicate calmer-than-average conditions while purple shades indicate windier-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

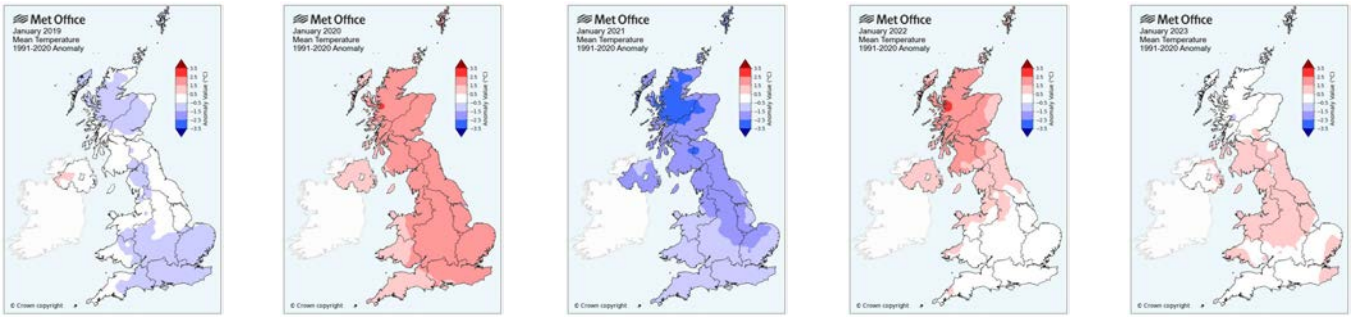
Long-term average temperatures (1-month)

This page shows the long-term average temperatures across the UK applicable to the 1-month Outlook period.



Average temperatures for January based on observations of past years.

Last 5 years temperatures, difference from average (1-month)



Jan 2019 | Jan 2020 | Jan 2021 | Jan 2022 | Jan 2023

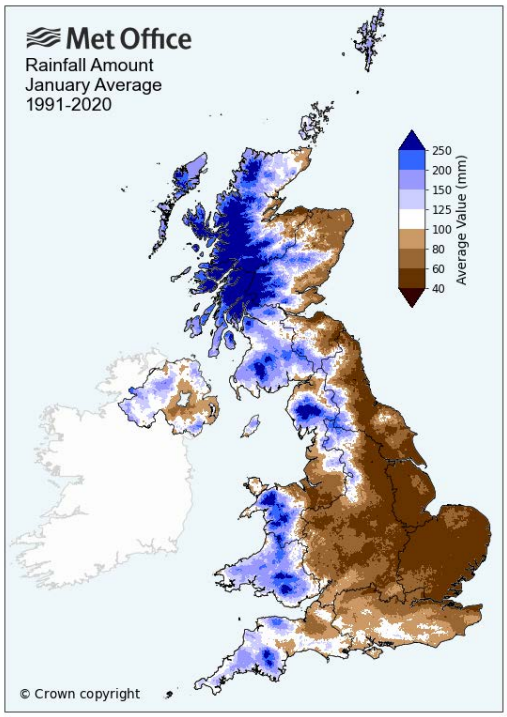
Anomaly (°C)

< -3.5	-3.5 to -2.5	-2.5 to -1.5	-1.5 to -0.5	-0.5 to 0.5	0.5 to 1.5	1.5 to 2.5	2.5 to 3.5	> 3.5

These maps show how January temperatures in the last five years differed from the long-term average temperatures shown above in the upper panel. Pink and red colours indicate warmer-than-average conditions while blue shades indicate cooler-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

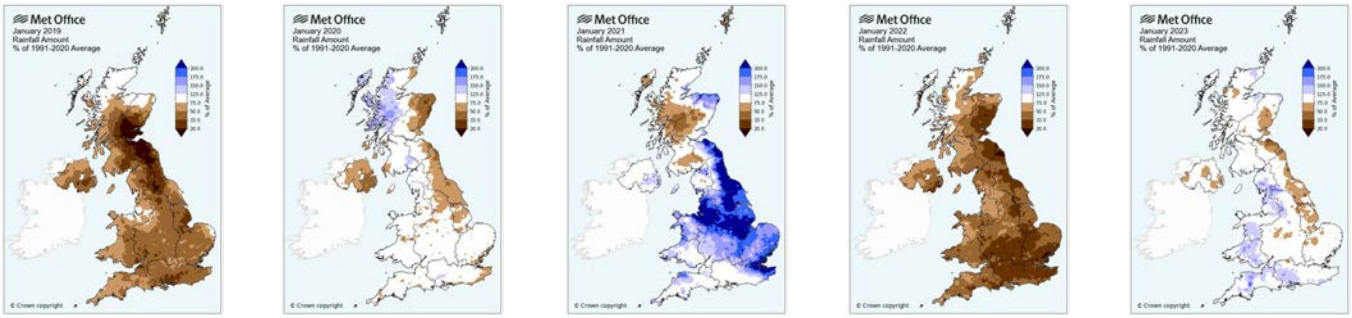
Long-term average precipitation (1-month)

This page shows the long-term average precipitation across the UK applicable to the 1-month Outlook period.



Average precipitation for January based on observations of past years.

Last 5 years precipitation, difference from average (1-month)



Jan 2019 | Jan 2020 | Jan 2021 | Jan 2022 | Jan 2023

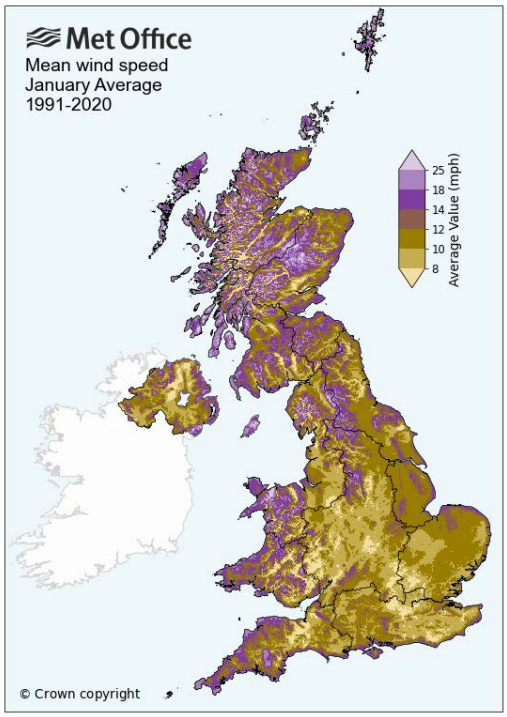
% of average

< 20	20 to 33	33 to 50	50 to 75	75 to 125	125 to 150	150 to 175	175 to 200	> 200

These maps show how January precipitation in the last five years differed from the long-term average precipitation shown above in the upper panel. Brown colours indicate drier-than-average conditions while blue shades indicate wetter-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

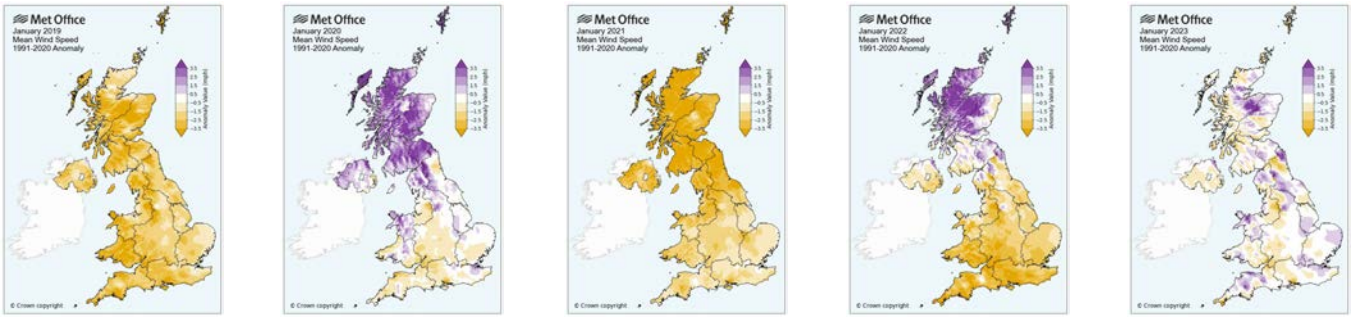
Long-term average wind speed (1-month)

This page shows the long-term average wind speed across the UK applicable to the 1-month Outlook period.



Average wind speed for January based on observations of past years.

Last 5 years wind speed, difference from average (1-month)



Jan 2019 | Jan 2020 | Jan 2021 | Jan 2022 | Jan 2023

Anomaly (mph)

< -3.5	-3.5 to -2.5	-2.5 to -1.5	-1.5 to -0.5	-0.5 to 0.5	0.5 to 1.5	1.5 to 2.5	2.5 to 3.5	> 3.5

These maps show how January wind speed in the last five years differed from the long-term average wind speeds shown above in the upper panel. Yellow colours indicate calmer-than-average conditions while purple shades indicate windier-than-average conditions. Detailed information on the climate of the UK is available at www.metoffice.gov.uk/climate.

Q&As

Q. What is the point of the Outlook, who is it meant for?
A. This Outlook is produced for planners in government and business who make risk-based decisions. These users are aware of the complexities of this type of outlook and will include those factors in their decision-making process.

Q. How did you decide on the Outlook? What are the main factors affecting it?
A. It is based on information from observations, several numerical prediction systems and expert judgment. See the 'Outlook in Context' section of the Outlook for more details.

Q. Is the Outlook for the whole country?
A. The Outlook is for the average of conditions over the UK as a whole. Regional deviations from the UK-average can occur. For example, average UK precipitation can result from below-average rainfall for the northwest and above-average for the southeast.

Q. How confident are you in this Outlook?
A. The percentages in the 'Likelihood of Impact' sections of the Outlook give the level of confidence.

Q. Are we likely to see cold spells and winter hazard such as snow and ice this winter?
A. This Outlook concerns weather themes for the whole 3-month period for the whole country, it does not tell us if or when cold spells might come along. However, indications are that we are more likely to see colder spells later in the winter season than in an average year. These could include snow and ice at times. It is still possible to have milder periods embedded within winters that are colder overall. In recent years, the likelihood of our coldest category has often been quite small reflecting the fact that UK climate has warmed compared to the long-term average. More detailed information is available in the long-range and 7-day forecasts on the Met Office website.

Q. Are we going to see a Sudden Stratospheric Warming (SSW), and will this mean cold weather for the UK?
A. There is an increasing risk we may see a SSW during second half of winter, although it is not guaranteed at this stage. Predominantly UK weather comes from the west – with a flow of relatively mild air coming in off the Atlantic, however, if an SSW does occur it could alter our weather patterns, 'blocking' the flow of mild Atlantic air or even dragging in colder air from the east. Exactly how cold it might get depends on exactly where the flow of source air originates from. SSWs don't always result in a cold snap – but they do more often than not - so an SSW can increase the risk of wintry weather for the UK.

Q. What impact will El Niño have on the weather this winter?
A. El Niño has a moderate influence on the UK's weather and is only one of a number of factors that meteorologists will take into account when assessing the Outlook. Generally speaking, past El Niño events have tended to favour wetter and milder conditions for the UK early in winter with colder and drier conditions later in the season, although the effect is relatively easily disrupted by other factors in any given year.

About the Outlook

The Outlook presented here is for United Kingdom as a whole and is based on information from observations, several numerical prediction systems and expert judgement. It is updated monthly to reflect the latest information on global weather patterns and their effect on the UK. The Outlook is designed to be used in conjunction with shorter-range forecasts – detailed weather forecast information is available on the Met Office website.

In this product, temperature refers to the average of daytime maxima and night-time minima. Wind speed refers to the average wind speed at a height of 10 metres. All numerical values relate to averages (temperature, wind speed) or totals (precipitation – rain, sleet, snow and hail) over 1 or 3 months, which are further averaged over the UK land area as a whole. Normal likelihood and long-term averages are established using the period 1991-2020.

Find out more

- UK 3-month Outlook user guidance page:
  https://www.metoffice.gov.uk/services/government/contingency-planners/user-guidance/user-guidance
- Explainers on climate drivers (such as the El Niño Southern Oscillation and North Atlantic Oscillation) that influence seasonal forecasts and the impacts they can have on UK weather:
  https://www.metoffice.gov.uk/services/government/contingency-planners/seasonal-forecasts-and-climate-drivers-resources
- Contingency planners page:
  https://www.metoffice.gov.uk/services/government/contingency-planners/index

Contact us

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Provide your feedback

We would like to hear your feedback on the UK 3-month Outlook to understand how it is being used. Please fill in the short form using this link or QR code to share your thoughts.